What Is Claimed Is:

1. A magneto-resistive layer system, at least one layer arrangement (15) being provided in an environment of a magneto-resistive layer stack (14) working on the basis of the GMR effect or the AMR effect, in particular, which generates a resulting magnetic field acting upon the magneto-resistive layer stack (14), wherein the layer arrangement (15) has a first magnetic layer (12) and a second magnetic layer (13), which are separated from one another by a non-magnetic intermediate layer (11), and the first magnetic layer (12) and the second magnetic layer (13) are ferromagnetically exchange-coupled via the intermediate layer (11).

2. The magneto-resistive layer system as recited in Claim 1, wherein the first magnetic layer (12) is a magnetically soft layer, especially made of permalloy, CoFe, Co, Fe, Ni, FeNi as well as magnetic alloys containing these materials, and the second magnetic layer (13) is a magnetically hard layer, in particular a magnetically hard layer made of CoSm, CoCrPt, CoCrTa, Cr or CoPt, or the first magnetic layer (12) is a magnetically hard layer, in particular made of CoSm, CoCrPt, CoCrTa, Cr or CoPt, and the second magnetic layer (13) is a magnetically soft layer, in particular a magnetically soft layer made of permalloy, CoFe, Co, Fe, Ni, FeNi, as well as magnetic alloys containing these materials.

3. The magneto-resistive layer system as recited in Claim 1, wherein the first magnetic layer (12) and the second magnetic layer (13) is a magnetically hard layer, especially a magnetically hard layer made of CoSm, CoCrPt, CoCrTa, Cr or CoPt.

4. The magneto-resistive layer system as recited in one of the preceding claims, wherein the first magnetic layer (12) has a different thickness than the second magnetic layer (13).

5. The magneto-resistive layer system as recited in one of the preceding claims, wherein the layer stack (14) has a third magnetic layer and a fourth magnetic layer which are separated from one another by a second non-magnetic

intermediate layer; and the non-magnetic intermediate layer (11) of the layer arrangement (15) and the second non-magnetic intermediate layer of the layer stack (14) are at least approximately made of the same material and/or have an approximately equal thickness.

6. The magneto-resistive layer system as recited in one of the preceding claims, wherein the non-magnetic intermediate layer (11) is made of copper, an alloy including or made of copper, silver and gold, or of ruthenium.

7. The magneto-resistive layer system as recited in one of the preceding claims, wherein the layer arrangement (15) is situated on top of and/or underneath and/or next to the layer stack (14).

8. The magneto-resistive layer system as recited in one of the preceding claims, wherein the first and/or the second magnetic layer (12, 13) have/has a thickness between 10 nm and 100 nm, especially 20 nm to 50 nm.

9. The magneto-resistive layer system as recited in one of the preceding claims, wherein, in response to a change in the temperature to which the magneto-resistive layer system (5) is exposed, a changing sensitivity or a shifting working point of the magneto-resistive layer stack (14) with respect to an external magnetic field to be measured with respect to strength and/or direction, is at least partially, especially completely, compensated within a predefined temperature interval of especially -30°C to +200°C by the resulting magnetic field generated by the layer arrangement (15), which also changes as a result of this temperature change.

10. A sensor element, especially for detecting magnetic fields with respect to strength and/or direction, having a magneto-resistive layer system (5) as recited in one of the preceding claims.